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BIOLOGICAL EVALUATION OF THE LARCH SAWFLY

ON THE

ALLEGHENY NATIONAL FOREST

BY

J. B. HANSON
Entomologist

DELAWARE FOREST PEST CONTROL ZONE
USDA-FOREST SERVICE
PO Box 365, Delaware, Ohio 43015

INTRODUCTION

In July, 1966 two infestations of the larch sawfly, Pristiphora erichsonii (Htg.), were detected by Forest personnel on the Ridgway District of the Allegheny National Forest. The sawfly caused an estimated 70-80% defoliation of the larch stands in the summer of 1966.

The two plantations are Japenese larch and are demonstration areas of timber management on the Forest. The Wetmore plantation is of particular interest because it shows strip mine recovery by the use of Japanese larch.

TECHNICAL INFORMATION

A. Causal agent

Larch sawfly, Pristiphora erichsonii (Htg.)

B. Host tree attacked

Larix leptolepis (Sieb and Zucc.) Gord.

C. Type of Damage

Larval feeding on host foliage resulting in growth reduction and decreased vigor.

The defoliation also reduces the aesthetic value as a multiple use demonstration area and makes it less appealing to is visitors.

D. Biological data

In the fall of 1966 and the spring of 1967 cocoon counts using one square foot duff samples were taken in each plantation to determine the effects of small mammals on the sawfly population. A total of four samples were taken around ten trees in each of the plantations. The plots were located three feet from the base of the tree in each of the four cardinal directions. Two plots were selected randomly by each tree for sampling in the fall and the remaining two sample plots were sampled in the spring count.

The result of the fall count was an average of 32 cocoons/sq. ft. at the Hoffman Farm plantation and 9/sq. ft. at the Wetmore plantation. Similar counts this spring at the two remaining plots were taken to determine the effect of small mammal predation on the population. The population at Hoffman Farm was reduced by 28% and the Wetmore population by 31%. This is not enough to result in decreased defoliation in 1967.

D. Biological data (cont)

An attempt to rear prepupae to determine the amount of parasitism failed. No predators or pathogens were observed affecting the sawfly population.

E. Environmental factors

No environmental factors to date have exerted an effective control on the larch sawfly populations on the Allegheny National Forest.

Because the larch is growing in well drained soils and not in bogs, high water levels - usually the most effective environmental factor - do not play an important factor in holding the population in check.

F. Extent and location of outbreak

Hoffman Farm plantation - 4 acres - Ridgway Ranger District.

Wetmore strip mine plantation - 60 acres - Ridgway Ranger District.

Location of the larch plantations are shown on the attached map.

RECOMMENDATION

The results of the biological evaluation indicate that suppression will be warranted in 1967 to protect the stands from severe defoliation and make them appealing to visitors. The plantations should be sprayed with 1/2 lb. malathion in one gallon of oil per acre and applied with a helicopter to afford better application. Two application dates will probably be necessary; the tentative application dates are June 21 and July 12.

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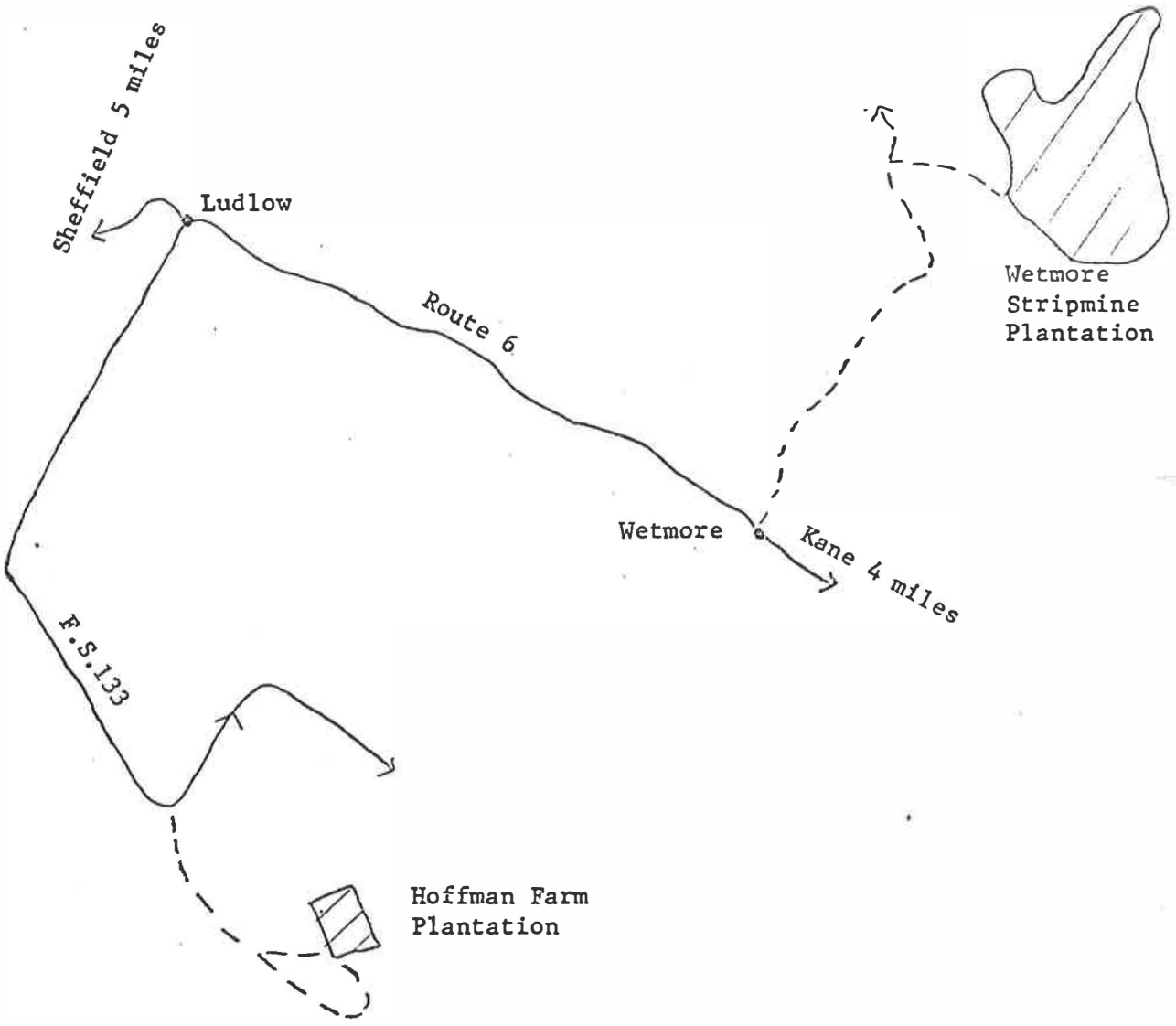
ALLEGHENY NATIONAL FOREST



Larch Plantations